III. THE LIVES OF OLDER PEOPLE

How the nearly 500 million older people in the world aged 60 and above spend their time, where they live, how they meet their special needs and what their problems are: all these are questions of great interest, but it would be presumptuous to think that there are simple answers. The heterogeneity of the aged is immense, for they are but one age segment of the diverse and complex mosaic of people around the world and thus as diverse as the rest of the world. Even to try to describe the aged in one region or one country presents innumerable difficulties. As was discussed in chapter I, there are some special things about old age. However, the basic fact bears repeating: when characterizing the elderly, the exceptions overwhelm the general.

With this strong note of caution in mind, an attempt is made in this chapter to present some meaningful impressions about the daily lives of older people. This task is difficult not just because of the great heterogeneity. It is also difficult because there are huge gaps in our knowledge. Despite the fact that gerontological research has increased dramatically over the past three decades, some of the most basic facts about the lives of the elderly in most countries, especially the elderly in developing countries, are still not known. This means that the discussion that follows is more impressionistic than scientific in nature. Moreover, the discussion is limited to only three key aspects of older people's lives: their health, their living situations and their involvement in economic activity.

A. Capacities and changing health status

> Li Hoizhong was born in a rural part of China's Guangdong Province. Over 60, he was crippled with arthritis and unable to work in the rice paddies or vegetable plots. Instead, he took a job as watchman in the village orchards and later shifted to the task of gathering animal droppings to be used by the farmers as fertilizer.
>
> Adapted from Deborah Davis-Friedmann 4/

> Vision problems afflict vast numbers of the elderly. So it was with Mr. T. He was a heavyweight boxer when he was young. At the age of 73 he lived in a one-room shack with only an old settee and a cupboard. Mr. T had no family nearby, and he found it increasingly difficult to live. Over the years his eyesight had steadily deteriorated, bringing him to the edge of blindness. Some friends regularly brought him food, but the future seemed bleak.
>
> Adapted from Ken Tout 5/

Many of the aged have major health problems (see boxes); many do not. Cross-national studies of the elderly in developed countries indicate "the large extent to which indications of health and well-being are similar among older populations of different nations". 6/ What is learned from these studies is that a large majority of the elderly in developed countries are in good

health, with no significant mental or physical decline. Only about 8 per cent of older people in these countries are seriously impaired or dependent on extensive supportive care, with 4-6 per cent living in institutional settings.

There is much less information about the health status of the elderly in developing countries. However, a recent World Health Organization (WHO) survey of older people in Fiji, Malaysia, the Philippines and the Republic of Korea provides us with some important insights. 7/ For example, as in developed countries, a very large proportion of the elderly in the four countries report that they feel healthy: Republic of Korea, 50 per cent; Fiji, 58 per cent; Malaysia, 72 per cent; and the Philippines, 84 per cent. When questioned about their ability to carry out activities of daily life (eating, dressing, walking, washing themselves, shopping, financial management etc.), most elderly respond that they are able to perform all 10 activities asked about without help from others: Republic of Korea, 71 per cent; Fiji, 82 per cent; Malaysia, 90 per cent; and the Philippines, 91 per cent.

However, in all the countries there are also a significant number of people with disabling conditions and vision and dental problems, and many older people interviewed in the four countries report difficulty in walking long distances.

B. Living situations

Samia Nassar was 61 years old, living in Meit-Okba in the governorate of Giza, Egypt. She was divorced but had two daughters, who she saw frequently. She rented a shared apartment on the ground floor of a three story building with another woman who was 65 years old. Their apartment consisted of two regular rooms, a hall, a bathroom and a kitchen. Samia Nassar's room was about 3 x 3.5 meters. It was not well ventilated, with only a small window covered with a net to keep out insects. The room had a tiled floor and contained a small bed with a mattress, a cushion and a sheet. In different corners of the room were a sofa, a closet, a sewing machine, a refrigerator, a stove cooker and a cupboard. The kitchen was used as a storeroom and the hall as the other woman's kitchen.

Adapted from Adel Azer and Elham Afifi 8/

"Mr. C." was 80 years old and a widower. Since his son lived in a tiny room that was too small to accommodate them both, Mr. C. was forced to find shelter elsewhere. He ended up living in a small, dilapidated shack with no windows, one door and a leaking roof. His bed, a piece of cardboard, took up all the space. His granddaughter brought him meals from time to time.

Adapted from Ken Tout 9/

Miriamu was born around the year 1900 and lived among the Samia of Western Kenya. Miriamu's husband had died many years before, and she was forced to live without significant resources in the village compound (along with two co-wives). Of the four children to whom she gave birth, two grew to maturity, but her son died in 1965. Miriamu's co-wives, younger and stronger, still grew their own food and lived in separate houses. Miriamu, however, was nearly blind from cataracts and in generally frail condition - unable to leave her tumbledown dwelling. Her roof leaked, and there was a gaping hole in the wall (letting in the cold night air). She was naked save for a dirty, ragged blanket. She survived as a result of occasional visits from her daughter (who was married and lived a day's journey away), occasional food from her co-wives and a nearby stepson and the receipt of a little assistance from outsiders.

Adapted from Maria Cattell 10/

The contrast between Samia Nassar's very modest situation and the even more meagre situations of two other older people in different developing countries (see boxes) illustrates how widely the housing arrangements of older people vary throughout the world; often these arrangements are inadequate. The proportion of the elderly living in independent or separate housing units is relatively high in Scandinavia and the English-speaking countries. Thus, for example, in Australia, the United Kingdom and the United States, "approximately 95 per cent of older people live outside institutional settings. Only 10 to 20 per cent live in households headed by adult children or others besides a spouse". 11/ In contrast, a minority of the aged in most eastern and southern European countries live independently.

Likewise, in developing countries the overwhelming majority of living and care arrangements for older people are still intimately connected to living situations involving younger relatives; few live alone. The WHO surveys of the aged in Fiji, Malaysia, the Philippines and the Republic of Korea provide information on elderly living environments in these four countries. The survey respondents were asked about their access to water and to cooking, bathing and toilet facilities. In Fiji and Korea, 13-14 per cent of the elderly did not have access to fresh water; in Malaysia and Fiji, 6-8 per cent of the elderly were without adequate toilet facilities; in the Republic of Korea, 39 per cent lived in housing that did not have cooking facilities and 69 per cent did not have access to adequate washing facilities.*

The ownership of housing can contribute significantly to helping the elderly achieve and maintain a satisfactory economic situation. Home ownership provides "the security of occupancy, relatively low cash outlays for shelter, and the means to buy other accommodation". 12/ Home ownership by the elderly is very high in many developed countries. For example, data for Australia in 1984 indicate that nearly 90 per cent of older couples and two thirds of older single persons were home-owners. 13/ In the United States, home ownership by

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*The percentages reported are for those of the four countries surveyed that had the highest levels of inadequate facilities in a particular category.

persons aged 65 or older was 75 per cent in 1987. 14/ Rates in Great Britain, however, were significantly lower; survey data indicate that in the early 1980s, one half of the housing units occupied by older persons who were household heads were owned by the older persons. 15/

The proportion of elderly people who live in special housing for the elderly is relatively small. In developed countries, however, there has been a significant growth in such specialized, non-institutional housing (see part three, chap. VIII). Institutional housing is also growing, especially in many developed countries; the three principal types are old age homes, nursing homes and geriatric and mental hospitals. With increasing numbers of the elderly living to very old ages, the incidence of serious disability and extreme frailty is expected to rise, resulting in a growing demand for these and other types of institutional settings.

C. Economic activity

> Sayed was 72 years old and lived with his last of five wives and an unmarried son in Meit Okba, Egypt. He was a skilled carpenter specializing in fitting parquet floors. Given his long years of experience, many of his carpenter friends often asked his advice and help in dealing with various technical aspects of the trade. Not eligible for a pension, his work (although irregular) allowed him to meet his family's needs.
>
> Adapted from Adel Azer and Elham Afifi 8/

> Don Manuel Ramon of Vilcabamba, Ecuador, said he was 118 years of age. No one could verify that fact, but there were people in his village with documented ages over 100 who remembered him as an adult when they were children. Even at this advanced age, Don Ramon worked. He said the idea of sitting and doing nothing did not appeal to him. And, since he lived alone and had no immediate family, he considered work a necessity if he was to be assured of food to live. To this end, he tended a small corn field high in the hills outside the village. However, having fallen one day on the way to the field (resulting in profuse bleeding and unconsciousness), he acknowledged his desire for some adjustment in his working conditions. "All I ask", he said, "is for a little corn patch on the level where I can go on working happily".
>
> Adapted from HelpAge International 16/

Many people think that the elderly are involved in very little economic activity. The stereotypical notion is one of frailty, retirement and inactivity. But in developing countries, examples like the situation of Sayed in Egypt and Don Manuel in Ecuador (see boxes) are not unusual.

As was discussed previously (see tables 1 and 2), and will be discussed again, formal labour force participation is relatively high in most developing countries. For example, one survey of a sample of people in the Vilcabamba

Valley of Loja Province in Ecuador illustrates the high levels of economic activity that often occur. The Vilcabamba Valley survey was of people aged 70 and over. 5/ The survey sample, half women and half men, reported the following distribution of economic activity outside the home:

	Percentage
Agricultural pursuits	48
Crafts (rope-making, wood carving, sewing, cigar- and cigarette-making etc.)	19
Casual laundering, hired labour or petty selling	20
Did no work outside the home	13

Thus, it can be seen that in this part of Ecuador, even the very old are economically active.

Regionally, the highest levels of male labour force participation rates are found in Africa. International Labour Organisation (ILO) data for 151 countries or territories show, for example, that 31 of the 36 countries with male participation rates over 70 per cent for persons aged 65 or older are in Africa. 17/ By far the lowest labour force participation rates for older men prevail in Western Europe, where the average is 6.6 per cent. 18/ Rates for older women are generally much lower than for older men. The lowest rates tend to be in Islamic and European countries. The ILO data indicate that the labour force participation of women 65 or over is 10 per cent or less in 83 countries out of 151 countries; in only 25 countries is the rate greater than 33 per cent.

Regional summary data for persons aged 55 and over are available from the ILO for the year 1990 (table 3). These data show, by sex, the proportion of persons 55 and over who are economically active.

Table 3. Economically active population aged 55+ in selected regions, 1990 (projection)
(Percentage of total population aged 55+)

Region	Both sexes	Males	Females
Africa	51	73	31
Asia	39	63	16
Latin America	32	56	12
North America	29	41	19
Europe	23	37	13
USSR	18	35	8

Source: Based on International Labour Organisation, Economically Active Population Estimates and Projections, 1950-2025 (Geneva, 1986), vol. V.

However, looking at economic activity only in terms of the formal labour force sector misses many of the other economic activities carried out by older people. Work associated with the home (cooking, water collection, cleaning, child care, repairs etc.) is an important occupation and does not stop when people get old. Table 4 provides data from a study in rural Botswana that measured the proportion of time devoted to various activities on a particular day.* The data show that there is not a dramatic decline with age in work activity among the older persons surveyed; men aged 60 or over still spend, on average, 33 per cent of their time working, and older females spend 40 per cent of their time at work (in contrast to 37-41 per cent for men and 51-52 per cent for women aged 40-59). Moreover, in developing countries where shared living arrangements still predominate, the retired elderly members of the family often take primary responsibility for looking after the home, for cooking and for child care while the younger adults are working outside the home. A study of the elderly in China describes the work roles of some older people in the rural areas of that country:

> "In the team labor force, the elderly take on the auxiliary roles of orchard watchmen, stockmen, and scavengers of dung and manure. In the households they assume primary responsibility for children, cooking, and the domestic animals ... Women, who withdraw from the productive team at a much earlier age [than men], actually continue to be economically active as long as their health allows and almost never can rationalize, or accept, a life without ceaseless toil." 19/

Table 4. Distribution of time use in rural Botswana, by sex and age
(Percentage)

Type of activity	Age group 40-49	50-59	60+
Males			
Work outside the home a/	32	29	26
Household work b/	9	8	7
All other activities c/	59	63	67
Total	100	100	100

continued

*The time allocation data pertain to the day before the survey interview and were obtained for all persons in the household aged 6 or older (4,600 individuals).

Table 4 (continued)

Type of activity	Age group 40-49	50-59	60+
Males			
Females			
Work outside the home	20	19	16
Household work	32	32	24
All other activities	48	49	60
Total	100	100	100

Source: Eva Mueller, "The value and allocation of time in rural Botswana", Journal of Development Economics, vol. 15, Nos. 1-3, pp. 329-360.

a/ Crop and animal husbandry, wage labour, trading, hunting and gathering.

b/ Housework, child care, water collection and repair of buildings.

c/ School, meetings, illness and health care, leisure.

There is a special aspect of family work that is strongly associated with the lives of older people. Although many older people are generally healthy, with older age comes a growing probability of illness, incapacity and need for health care. Older couples usually redistribute domestic and other chores if there is a significant change in the health status of one or both. Most of the care provided to older people comes, first, from a spouse and, secondly, from children. 20/ Given the very high costs of professional health and home care providers, this contribution of care by a spouse or child represents a very significant amount of economic activity.

In summary, while increasing numbers of older people are entering a retirement stage of life and entering at increasingly early ages, it does not follow that the aged can be characterized as an economically inactive group. Those elderly who spend most of their time in leisure activities are still a minority around the world. Formal labour force activity remains high in many countries, and informal economic activities within the family and community remain significant in all countries.

Notes

1/ Catherine Coles, "The older woman in Hausa society: power and authority in urban Nigeria", The Cultural Context of Aging: Worldwide Perspectives, Jay Sokolovsky, ed. (New York, Bergin and Garvey, 1990), pp. 72-73.

2/ Jennie Keith, "Age in social and cultural context: anthropological perspectives", Handbook of Aging and the Social Sciences, 3rd ed., Robert H. Binstock and Linda K. George, eds. (New York, Academic Press, 1990), pp. 91-111.

3/ Jack Goody, "Aging in nonindustrial societies", Handbook of Aging and the Social Sciences, Robert H. Binstock and E. Shanas, eds. (New York, Van Nostrand Reinhold, 1976), pp. 119-120.

4/ Deborah Davis-Friedmann, Long Lives: Chinese Elderly and the Communist Revolution (Cambridge, Massachusetts, Harvard University Press, 1983), p. 18.

5/ Ken Tout, Ageing in Developing Countries (Oxford, Oxford University Press, 1989).

6/ Kevin Kinsella, Aging in the Third World, International Population Reports Series P-95, No. 79 (Washington, D.C., Government Printing Office, 1988), p. 14.

7/ Gary R. Andrews and others, Aging in the Eastern Pacific (Manila, World Health Organization, 1986).

8/ Adel Azer and Elham Afifi, Social Support Systems for the Aged in Egypt, . Case-study prepared for the United Nations University Study of Aged Social Support Systems in Transition, March 1990.

9/ Tout, op. cit., p. 116.

10/ Maria G. Cattell, "Models of old age among the Samia of Kenya: family support of the elderly", Journal of Cross-Cultural Gerontology, vol. 5, October 1990, pp. 375-394.

11/ Hal L. Kendig, "Comparative perspectives on housing, aging, and social structures", Handbook of Aging and the Social Sciences, 3rd ed., Robert H. Binstock and Linda K. George, eds. (New York, Academic Press, 1990), pp. 288-303.

12/ Ibid., p. 290.

13/ Hal. L. Kendig, "Housing policies", Grey Policy: Australian Policies for an Ageing Society, Hal L. Kendig and J. McCallum, eds. (Sydney, Allen and Unwin, 1990).

14/ United States Bureau of the Census, "Housing arrangements of the elderly", Statistical Brief SB-2-90, January 1990, pp. 1 and 2.

15/ M. Evandrou, Differentiation in Later Life: Social Class and Housing Tenure Cleavages (London, Suntary-Toyota International Centre for Economics and Related Disciplines, London School of Economics, 1988).

16/ HelpAge International, "More life for the longest lives", Age Action, Autumn 1990, p. 4.

17/ Robert L. Clark and Richard Anker, "Labour force participation rates of older persons: an international comparison", Population and Labour Policies Programme Working Paper No. 171 (International Labour Organisation, 1989).

18/ Ibid., p. 11.

19/ Davis-Friedmann, op. cit., pp. 16 and 17.

20/ Neena L. Chapell, "Aging and social care", Handbook of Aging and the Social Sciences, 3rd ed., Robert H. Binstock and Linda K. George, eds. (New York, Academic Press, 1990), pp. 438-454.

Part Two

THE SOCIO-ECONOMIC IMPACT OF POPULATION AGEING

INTRODUCTION

The social and economic welfare of individuals in various countries is influenced by many factors. Today, as in the past, the key factors influencing economic growth are political stability, labour force participation, savings behaviour, investment in human and business capital, technological change, entrepreneurial initiatives, managerial skills, government provision of community infrastructure and so on. Thus, the debate over how best to promote economic growth is not primarily a discussion of changing demographics. In fact, the ageing of populations may have little to do with economic growth.

However, this viewpoint is not the one that prevails in most commentaries about population ageing written in the last few years. This is especially true with regard to the discussions taking place in industrialized nations, where, as has already been noted, the proportion of older people is projected to rise steadily in the years to come. A widely held view portends a rapidly escalating burden on members of the labour force as ageing societies struggle to meet the income and health care needs of the baby-boom generation,* who will start, in most industrialized countries, to retire early in the twenty-first century. This pessimistic outlook is based typically on the following major facts and assumptions about developed countries:

(a) Dramatically lower fertility rates in the last two or three decades are sharply reducing the number of labour force entrants, especially in comparison with the number of labour force entrants associated with the baby-boom phenomenon;

(b) As the baby-boom populations begin to retire early in the twenty-first century, the ratio of aged people to workers will rise dramatically. This demographic shift is seen by some as signalling financial strains on the slowly growing labour force in each country that must produce the output necessary to support the burgeoning elderly population;

(c) The financial strains imposed on the labour force by the rapidly ageing population will be exacerbated by current early retirement trends, slow economic growth, steadily rising life expectancy and spiraling medical costs, especially for the care for growing numbers of the very old.

At first glance, the chain of logic seems indisputable. Unless fertility or immigration increases sharply, it seems reasonable to assume that the demographic profile of ageing nations will be determined by current fertility and mortality rates and existing cohorts of the population. As populations and public and private pension systems simultaneously mature, pension costs will increase significantly. Moreover, life expectancy can be expected to continue to rise; so, too, can medical costs, which in many countries have risen much more dramatically than improvements in life expectancy alone would dictate. Finally, to the extent that recent poor macroeconomic performance, especially with respect to inflation and unemployment, is a good predictor of future economic patterns, the ability of ageing societies to maintain

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*Baby-boom generation refers to those born when there was a temporary marked increase in the birthrate. In developed countries, this occurred in the period immediately following the Second World War.

personal, private and public spending programmes at current, or higher, levels must be questioned.

However, the extent to which population ageing will cause serious economic problems is not as clear as is commonly believed, especially if nations anticipate and plan for the demographic changes of the future. It is true that the magnitude and trend of the many factors influencing the outcome of the issues raised by population ageing are known and relatively fixed: past births, life-expectancy trends, pension coverage and benefit formulas, mortality-rate differentials by sex and so forth. However, it is important to remember that many other factors are not fixed and not easily predicted: savings rates, future inflation and unemployment rates, real rates of economic growth, future fertility rates, attitudes toward work, labour productivity and so forth. Moreover, the conventional wisdom outlined above becomes a much less reliable guide given the relatively primitive state of knowledge in this area and the conflicting findings in much of the recent research.

Clearly there is a need for the United Nations and its Member States to better understand the ageing phenomenon and assess policy options related to demographic change. In this part, and in part three, which covers some key ageing policy issues, are sketched the broad dimensions of the task that lies ahead for policy makers.

I. ECONOMIC EFFECTS OF POPULATION AGEING

Most of the analytical inquiries into the economic effects of population ageing have focused on (a) changing dependency ratios, (b) trends in labour force participation, (c) projected public sector expenditures, (d) changes in savings and investment and (e) labo r productivity.

The dependency ratio is the crudest measure currently used to assess the economic impact of population ageing. Still, most of the analysis and discussion to date have focused on it. It has become standard practice to construct dependency ratios to measure a society's ability to support its older population. "The utility of demographic dependency ratios lies in the fact that they allow the impact of demographic change on the dependency burden over time to be isolated from other non-demographic factors such as variations in labour force participation rates, unemployment rates and levels of social benefits." 1/ As the name implies, dependency ratios involve calculating the ratio of (presumably) "dependent" to "productive" members of a nation. Those wishing to highlight the burden of an ageing population often stress aged dependency ratios, defined to be the ratio of the size of the aged population to the size of the population of labour force age. As was discussed in part one, chapter II, the world's aged dependency ratio is projected to rise over the next few decades.

A more meaningful measure of support burdens is the total dependency ratio, which combines the groups of the aged and children. As was reported in part one, chapter II.C, the global total ratio is projected to decline from 66 per cent in 1950 to 52 per cent in 2025. However, this global trend masks the steady rise in total dependency projected for the developed regions of the world, given the fact that this rise is, in effect, overwhelmed by the changing total dependency in developing regions, where total dependence is expected to drop sharply. These two contrasting trends are a clear indication of the very different demographic situations confronting developed and developing countries and the dangers of global generalizations.

Table 5 shows dependency ratios for Africa, Latin America, East Asia and Western Europe in 1975 and corresponding ratios for the year 2025, calculated on the basis of United Nations demographic projections. The data indicate that the weight of the aged population in the total dependency ratio is currently very small in Africa. Though it will become slightly larger by the year 2025, the increase will be more than compensated for by the decreased ratio of children projected for that year. Between 1975 and 2025, the aged dependency ratio is expected to almost double for Latin America and to rise even more sharply for East Asia. Total dependency, however, is projected to fall in both regions.

Table 5. Dependency ratios for selected regions, 1975 and 2025

Region	Year	Dependency ratio a/ by age group (per thousand)		
		0-14 and 65+	0-14	65+
Africa	1975	919	860	59
	2025	637	570	67

continued

Table 5 (continued)

Region	Year	Dependency ratio a/ by age group (per thousand)		
		0-14 and 65+	0-14	65+
Latin America	1975	831	756	75
	2025	523	391	131
East Asia	1975	743	661	82
	2025	468	268	201
Western Europe	1975	576	360	216
	2025	609	250	358

Source: World Population Prospects 1990 (United Nations publication, Sales No. E.91.XIII.4).

a/ Defined as the ratio of the population aged 0-14 and/or 65 and over, to those aged 15-64, multiplied by 1,000.

The aged dependency ratio for East Asia in 2025 will be similar to that which characterized Western Europe in 1975. In turn, by 2025 the aged dependency ratio for Western Europe is expected to increase by 66 per cent, rising from 216 to 358, a dependency ratio 43 per cent higher than that for the 0-14 age group.

A. Labour force dependency ratios

Purely demographic dependency ratios are extremely crude. In particular, these ratios are based on the assumption that everyone of labour force age works and supports all non-working, dependent persons in society, namely children and the elderly. However, many persons of labour force age do not participate in the paid labour force (for example, homemakers, many university students and some disabled persons), and many teenagers and older persons do. Failure to take account of the labour force participation rates of alternative population groups may therefore lead to misleading conclusions regarding the future support burden that must be borne by workers. This is particularly true in the light of differences in the patterns of labour force participation in various countries.

Dependency ratios change when labour force participation is taken into account. To illustrate the magnitude of these changes, estimates are presented below for three developed countries, Australia, Japan and the United States, with most of the discussion and data having been taken from 2/. The labour force dependency ratios were calculated by first multiplying age-specific labour force participation rates by the population projections for each corresponding age group to get the total working population. Labour force dependency ratios were then calculated by dividing the difference between the total population and the working population, that is, the "dependent" population, by the working population and multiplying the result by 100.

Trends in these ratios for the United States are shown in figure VIII. The total labour force dependency ratio declines from about 158 in 1960 to about 110 in 2020. Figure VIII also breaks the total labour force dependency ratio into three age groups: children, younger adults and older persons. It is interesting to note that the shape of the total labour force dependency ratio over the 1960-2000 period is dominated by declines in child and younger adult dependency, the latter being the result of increased labour force participation among women. From 2000 to 2020, the shape of the total dependency curve is influenced mainly by the rising aged dependency ratio.

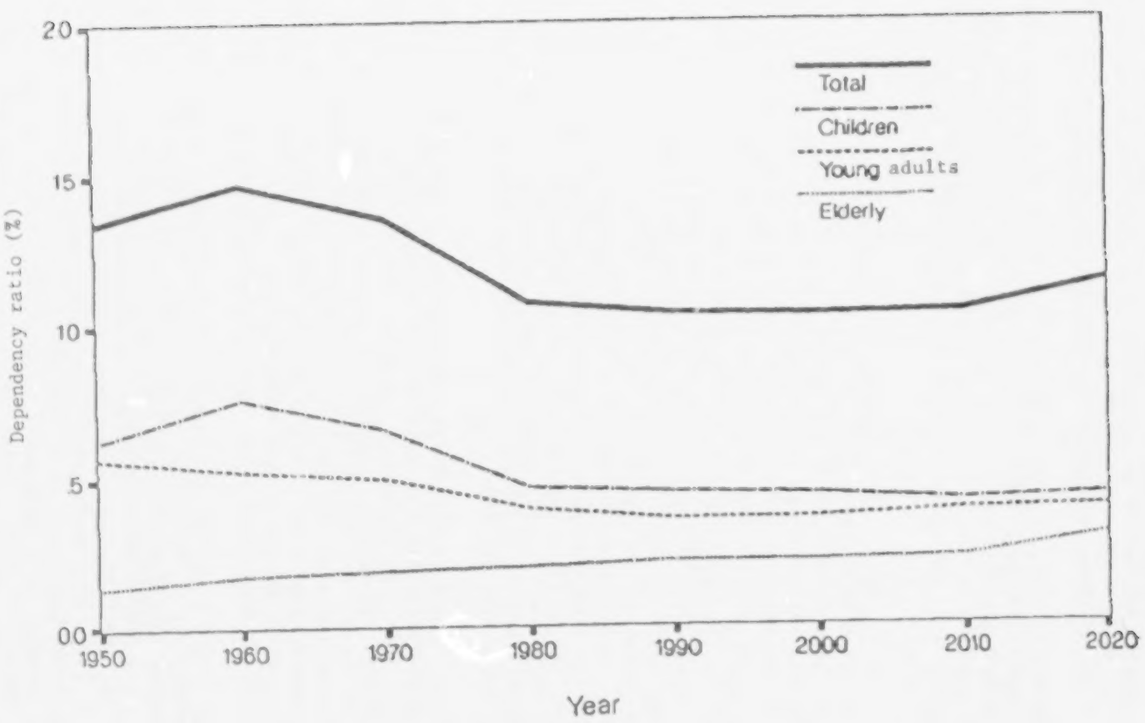
In the United States, aged dependency will begin to overtake youth dependency around the year 2040 (not shown in figure VIII). However, the projections indicate that future aged dependency ratios for the United States will never approach the levels of youth dependency existing in the 1960s and 1970s. Beyond 2040, the child and aged dependency ratios will remain essentially equal.

Interestingly, labour force dependency ratios and the more common demographic ratios have different implications for the size of the future burden to be borne by workers in the United States. The values for the labour force dependency ratios are larger because these ratios include many persons of labour force age who are not employed. On the other hand, labour force dependency ratios suggest that the future support burden on workers will be lower, relative to historical experience, than traditional dependency ratios. For example, in the United States the traditional total dependency ratio was 83 in 1960, suggesting that each person of labour force age supported 0.83 dependent persons; this implies that there were 1.2 workers for each non-working member of the population. In contrast, the total United States labour force dependency ratio was 158 in 1960, suggesting that each person in the labour force supported about 1.6 non-working persons. By 2050 the total United States labour force dependency ratio is projected to be 105, which is 34 per cent lower than in 1960 and 6 per cent lower than in 1980. In contrast, the traditional total United States dependency ratio will be 75 in 2050, only 10 per cent lower than in 1960.

Of course, from a policy perspective what really matters is which dependency measure is likely to give the most accurate estimate of the future support burden that must be borne by workers. The so-called burden has two primary elements: demographic changes and trends in labour force participation rates. Traditional dependency ratios cannot take account of trends in labour force participation because these ratios are constructed solely with demographic data. Since trends in labour force participation are likely to be a major factor in determining future dependency relationships, total labour force dependency ratios are clearly the better measure.

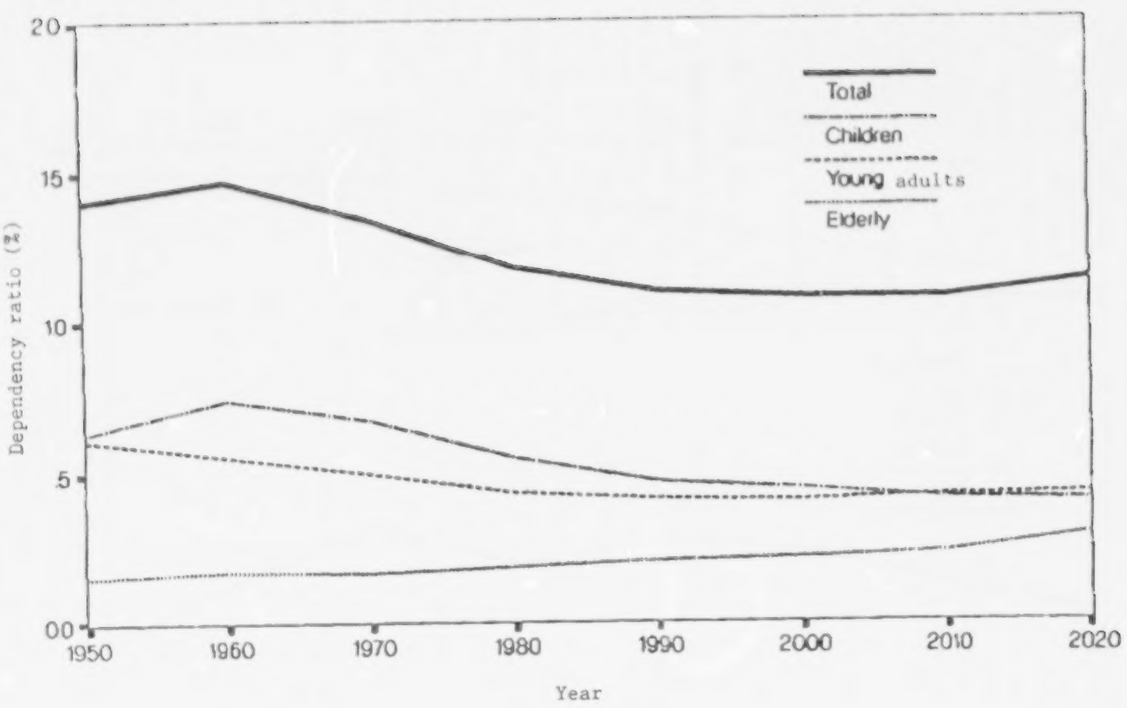
Figures IX and X present the historical and projected trends in labour force dependency ratios for Australia and Japan. The trends for the labour force dependency ratios for Australia mirror those for the United States. The Australian total labour force dependency ratio was highest in 1960, when it was nearly 150. By 2020, the total labour force dependency ratio is projected to decline to 110. This projected decline is the result of declines in the child labour force dependency ratio from 74 in 1960 to 41 in 2020, as well as a decline in younger adult dependency brought about by the increased labour force participation of women. These declines in child and younger adult dependency more than offset projected increases in aged labour force dependency ratios from 1960 to 2020.

Figure VIII. Historical and projected labour force dependency ratios: United States, 1950-2020



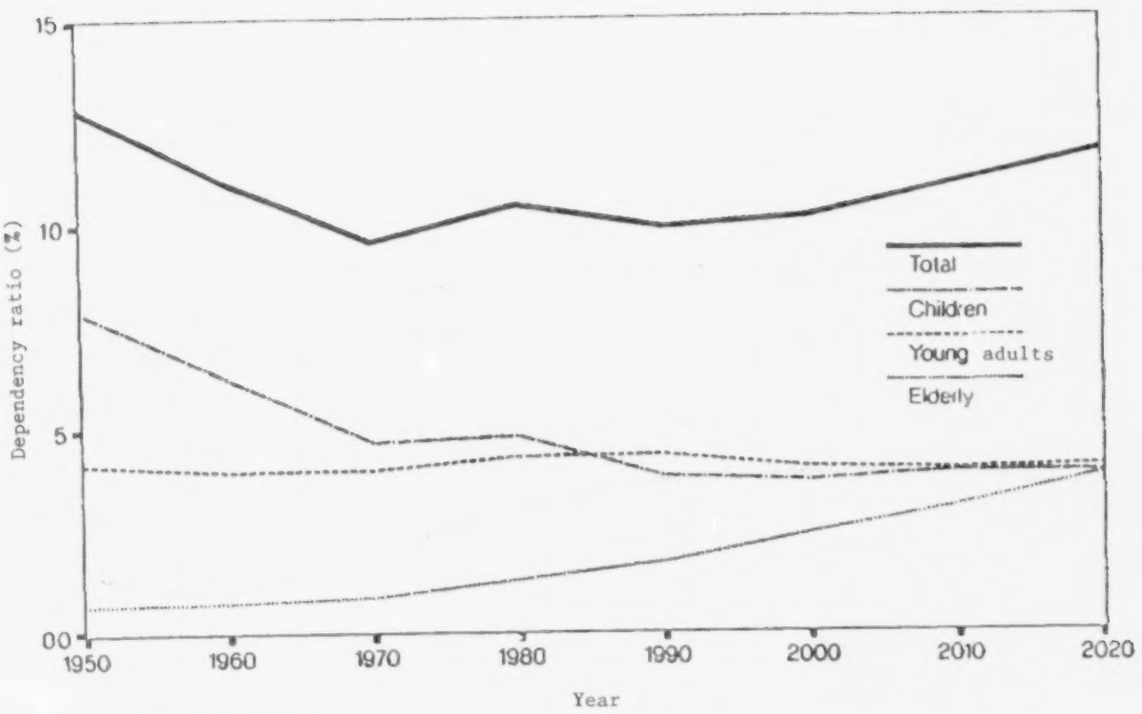
Source: International Labour Organisation, "Economically active population estimates and projections, 1950-2025" (Geneva, 1986).

Figure IX. Historical and projected labour force dependency ratios: Australia, 1950-2020



Source: International Labour Organisation, "Economically active population estimates and projections, 1950-2025" (Geneva, 1986).

Figure X. Historical and projected labour force dependency ratios: Japan, 1950-2020



Source: International Labour Organisation, "Economically active population estimates and projections, 1950-2025" (Geneva, 1986).

What is perhaps more surprising is the finding that the total labour force dependency ratios for Japan do not exhibit the substantial fluctuations that might be expected. Figure X shows that in Japan the total labour force dependency ratio declines from a high of 128 in 1950 to 117 in 2020. The declines in child dependency and the increases in aged dependency, however, are much more pronounced than they are in the United States and Australia. Child dependency declines from 79 in 1950 to 39 in 2020. Younger adult labour force dependency ratios remain virtually constant: 42 in 1950 and 40 in 2020. Aged dependency ratios, however, rise substantially, from 7 in 1950 to 38 in 2020. Thus, it can be seen that aged dependency is projected to be much higher in Japan than in the United States or Australia. Perhaps more importantly, because of rapid changes in age composition, dependency relationships in Japan will change much more rapidly than in the United States and Australia, requiring more adaptation on the part of Japan's retirement institutions than in those of the other two countries.

The preceding discussion indicates that total labour force dependency ratios in these three developed countries will be lower at the height of the baby-boom generation's retirement than they were in the 1960s.

B. The relative costs of younger and older dependants

As has been shown, the demographic processes leading to the ageing of populations tend to decrease total dependency ratios and the weight of younger dependants but to increase old-age dependency. A key issue in assessing the economic effect of the ageing of populations is, accordingly, the relative cost of maintaining younger versus older dependants.

Most dependency ratio studies in industrialized nations have found that total dependency ratios will be lower in the years of the baby-boom generation's retirement than they were when members of that generation were children in the 1950s, 1960s and 1970s. However, dependency ratio studies may be misleading. One consideration is differences in expenditures. If per capita expenditures on older persons are higher than per capita expenditures on children, total dependency ratios may underestimate the support burden that will be levied on members of the labour force.

There have been relatively few attempts to measure and contrast the costs of supporting older and younger dependants. Moreover, analysts in various countries who have worked on this question have mostly limited their focus to the impact on public expenditures.

A study by the International Monetary Fund compares the government expenditure impacts of population ageing in the United States, Japan, Canada, France, the Federal Republic of Germany, Italy and the United Kingdom of Great Britain and Northern Ireland. 3/ This study concludes that the effects of population ageing on social expenditures will be very different in the seven countries. Assuming medium-range population projections and constant real 1980 per capita benefits, government expenditures are projected to rise substantially in all the countries by 2025. However, these increases in government expenditures are much more modest when viewed in the context of the growth in gross domestic product (GDP) projected to take place during the same period. Expenditures are projected to increase by between 1 and 4 percentage points of GDP in Japan, the Federal Republic of Germany and Italy. In the United States, Canada, France and the United Kingdom, the ratio of government expenditures to GDP is projected to decrease.

However, under pessimistic assumptions (greater population ageing and poorer macroeconomic performance), the increases in government expenditure are projected to be much greater. The ratio of government expenditures to GDP is projected to increase in all countries, ranging from a 2 per cent increase in Canada to a 15 per cent increase in Japan.

A study by the Organisation for Economic Co-operation and Development (OECD) assesses the impact of demographic shifts on social expenditures in OECD countries. 4/ The analysis looks at expenditures on education, health care, pensions (old age, survivors and permanent sickness), unemployment compensation and family benefits. It estimates the rates of GDP growth necessary to finance the increase in these expenditures implied by changing demographic patterns. The study concludes that "the social expenditure effects of demographic change appear unlikely to give rise to financial strain in any of the countries examined". It stresses, however, that its conclusions do not take into account any legislated changes in coverage or benefit levels that might occur in future years.

Several estimates of the effects of population ageing on federal government expenditures have been made for the United States. 5/, 6/, 7/ Federal expenditures on the older population are projected to increase from 25 per cent of total federal outlays in 1980 to 41-51 per cent of total federal outlays by 2030. However, the study by Clark and Menefee points out that as a per cent of gross national product (GNP), increases in federal expenditures on older persons are much less dramatic than the federal budget shares would suggest. 6/ If benefits increase at the same rate as average earnings, that is, maintaining constant relative benefits, Clark and Menefee estimate that federal expenditures on the elderly would increase from 5 per cent of GNP in 1978 to 8.3 per cent in 2025. If real 1978 benefits were maintained through 2025, the share of GNP devoted to federal expenditures on the older population would fall to 3.8 per cent in 2025.

An analysis of projected social expenditures in Australia from 1980-1981 to 2021 found that per capita state and federal government expenditures on older persons were about double those for children. 8/ As a consequence, per capita state and federal government outlays were projected to increase about 12 per cent by 2021. A more recent study by the Economic Planning Advisory Council has estimated that even in the unlikely situation of zero growth in labour productivity, total social expenditures on health, welfare, social security, education and employment programmes would grow from 20 per cent of GDP in 1985 to 22.6 per cent of GDP in 2025. 9/

In summary, there have been a number of studies concerning the public costs of population ageing in various developed countries. All of these studies indicate that public expenditures for the aged will increase as a result of population ageing. The studies also indicate, however, that these increases will be relatively modest when considered in the context of the economic growth expected to take place over the same period.

C. Age differences in consumption expenditures

It has already been noted that a major limitation of the dependency ratio approach is the assumption that the per capita costs of supporting alternative groups of dependent persons are identical. Although it is possible to take account of cost differentials in dependency ratio calculations, total cost differentials, including private expenditures, between younger and older dependants are extremely difficult to estimate.

It is widely recognized that families provide most of the support for younger dependants. In contrast, the support that families in developed countries provide for older dependants in failing health is seldom acknowledged in broader discussions of dependency issues. Moreover, even if one assumes that support for younger dependants is provided completely from private sources, while support for older dependants is provided completely from public sources, declining youth dependency will enable economic resources to be freed for the support of the aged.

Therefore, to assess the full economic impact of an ageing population, differences in private expenditures for both the young and the old need to be examined. A 1978 article by Wander estimated that the cost of supporting children to age 20 in the Federal Republic of Germany was one fourth to one third higher than the cost of supporting older persons from age 60 until death. 10/

A more recent study by Schulz, Borowski and Crown in the United States estimates the average per capita expenditure on children to be about half as great as the per capita expenditure on persons aged 65 and over. 2/ Schulz, Borowski and Crown use these relative cost estimates to weight labour force dependency ratios for the United States. Analysis of the resulting adjusted ratios supports the conclusion that taking into account the relative private costs of children, younger adults and older persons does not alter the basic conclusion of other dependency ratio studies in the United States. That is, the total dependency ratio is still found to be lower when members of the baby-boom generation retire than it was when members of this generation were children in the 1950s and 1960s.

II. SAVINGS AND INVESTMENT

Savings play a crucial role in theories of economic growth because it is personal and retained earnings from businesses that facilitate the use of a nation's resources for investment purposes, which is one of the key factors in economic growth. However, it is a common misconception to think that there is a direct causal relationship between personal and pension saving and economic growth. In fact, there is widespread disagreement among economists on the need for or the importance of any particular savings accumulation process and on whether it is the savings or the investment climate that is the more limiting factor. 11/, 12/, 13/

Does population ageing increase or decrease the pool of savings available for investment? The life-cycle theory of consumption and savings 14/ appears at first to offer an unambiguous answer. People are expected to borrow early in life to finance education and home mortgage expenses, gradually pay off these debts in mid-life, accumulate savings for retirement and then spend these savings in retirement. But introducing employer and public pensions into the picture complicates any analysis of savings behaviour. Based on existing economic theory alone, it is impossible to predict the impact pensions are actually having on savings. By encouraging early retirement, pensions systems may increase the rate of personal savings because people have to save more in order to be able to retire earlier and to spend more years in retirement (the "induced retirement effect"). On the other hand, the existence of the income stream from pension plans may induce people to save less, especially if they feel that they can still afford retirement without the additional savings (the "wealth effect").

The large body of empirical research that now exists on the effects of population ageing on personal savings is equally unclear. Contrary to the expectations of the life-cycle theory, many empirical studies show that, with the exception of the very poor and the very old, many elderly households in developed countries continue to save during retirement, in some cases, substantially.

Moreover, reserves of public and employer pension plans in many developed countries have already accumulated to substantial levels. This may be evidence that population ageing, in conjunction with the institutional structure of pension plans, is increasing savings levels, at least until members of the baby-boom generation begin retiring. Or it may be that these savings would have taken place anyway by private savings mechanisms. Again, the empirical evidence on this matter is inconclusive.* As a consequence, it is not currently possible to make an unambiguous statement that population ageing will lead to less savings and lower economic growth.

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*A good review of recent research can be found in Habib. 15/

III. PRODUCTIVITY

The productivity of the labour force may be influenced by population ageing in a number of ways. Because labour force participation rates tend to decline beyond age 55, especially for men, population ageing suggests that with continued low fertility rates, the size of the labour force will decline as the baby-boom generation in each country retires. Everything else being equal, this suggests that the productivity of workers remaining in the labour force should increase with population ageing because workers will have, on average, more capital at their disposal.*

Demographic changes attributable to fertility rates provide only a partial view of what is likely to happen in future years to the age and structure of the labour force. Changing participation rates will certainly be an equally important factor. Two factors are especially important: exits from the labour force at earlier ages as a result of changes in retirement policies and the generally increasing participation in the labour force of middle-aged and older women.

The productivity of the labour force may be influenced also by changes in the stock of financial capital available for investment in land, production facilities and equipment. The effects of population ageing on national wealth are unclear, however. If population ageing tends to raise the wealth of nations, the stock of financial capital available for investment in each country will be increased. If this increased financial capital is invested, labour productivity will be enhanced. Conversely, if population ageing reduces national wealth, labour productivity may decline.

In addition to questions about the effects of population ageing on the future size of the labour force and the supply of investment capital, there is the question of the substitutability of older and younger workers. Often, older workers receive higher wages and are perceived by employers to be less productive than their younger counterparts. However, research into the effects of age on occupational performance indicates that these effects vary widely by job and by industry and from worker to worker. 16/, 17/ To the extent that problems exist, research shows that lower output from some older workers is a phenomenon related primarily to only a few attributes of work, such as endurance and strength. In some occupations, such as the assembly of parts in manufacturing, productivity deficits have been found. But in other occupations, such as sales, older workers have been found to be more productive than younger workers. Of course, even if the productivity of older workers does decline with age, this may be partly a result of the reluctance of employers, and older workers, to invest in training. This reluctance could vanish, however, as the number of young labour force entrants declines with demographic shifts.

Even where productivity is an issue, compensating factors often offset physically related declines in productivity with advancing age. For example, although older workers may have a lower average level of formal education than younger workers, on-the-job experience frequently compensates for this disadvantage. Moreover, the current gap between the average years of

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*Total potential output may fall, however, because of a decline in the size of the labour force.

schooling completed by older and younger workers is a cohort phenomenon that will be largely eliminated in future years. Even with the current educational gap, older employees have been found to perform as well as, or better than, younger employees with respect to a wide range of work attributes: creativity, absenteeism, flexibility, accident rates and turnover. Despite evidence to the contrary, however, stereotypical ideas about declines in productivity among older workers abound and persist with amazing tenacity.

Productivity is a crucial element in the economic growth process. Without increases in labour productivity, for example, by means of increased capital investments or technological change, economic growth is possible only if the size of the labour force increases. Such increases are unlikely to occur in industrialized nations as their baby-boom generations reach retirement age, unless labour enters from other countries.

IV. EFFECTS ON THE CAPACITY OF THE FAMILY TO SUPPORT OLDER PERSONS

In addition to their impacts on the economic variables detailed above, the declines in fertility and mortality that accompany population ageing will affect social institutions such as the family. Because the number of children, and their availability, will decline and the survival of parents will increase, the relative burden of supporting the elderly on other family members will increase. Thus, even where the cultural norm of caring for the ageing remains strong, the physical capacity of the family to provide such care will be weakened. This finding has significant economic implications. A reduction in family resources will be accompanied by an increased need for public services, both to strengthen the economic capacity of the family to perform its caretaker role and, where necessary, to substitute for traditional family support.

The ability of the family to care for older relatives is very much influenced by reproductive behaviour in conjunction with increased longevity. (This point is elaborated on in The World Aging Situation: Strategies and Policies 18/ and in Goodman, Keyfitz and Pullum. 19/) At the family level, it is easy for five children to provide a relatively reasonable old age for one grandfather; this is less easy for three children who still have two grandparents out of four. This effect of the demographic transition on ratios of surviving children to surviving parents implies an increasing need for public support to families caring for older relatives, even where cultural values strongly uphold the responsibility of children to care for their parents.

V. THE AGEING OF POPULATIONS AND SOCIAL DEVELOPMENT*

A discussion of the developmental impact of the ageing of populations must extend beyond economic issues. While development requires growth, the two terms are not synonymous. The social component of development encompasses the equitable distribution of the benefits of economic growth to all sectors of the population and, even more broadly, is concerned with improvements in the intangible social, cultural, psychological and political factors that shape the quality of life. Elements of social development thus include the promotion of human dignity, the provision of social equity in access to goods and services and the promotion of participation in the processes of development. Factors that have been suggested as measures of progress in achieving social development include (a) the responsiveness of development to human needs, (b) the extent to which the entire population participates, as agents and beneficiaries, in the development process and (c) the spatial distribution of the benefits of development (E/CN.5/1983/7).

A. The impact of development on the ageing

While the phenomenon is difficult to quantify, there is evidence that the older sector of the population is not sharing equitably in the process of development. In fact, the aged may be negatively affected by the modernization, industrialization and urbanization trends accompanying development. As the older population grows, in both relative and absolute terms, social development issues impinging on it are becoming more acute.

For example, shifts from extended to nuclear families may imply the loss of older persons' roles as heads of families and the loss of their decision-making functions and financial responsibilities. In rural areas, new patterns of land ownership and the mechanization of agriculture reduce opportunities for older farmers to adjust their workloads and carry out smaller tasks as their strength diminishes. In urban settings, the substitution of wage labour for independent work makes it difficult to adapt working conditions to the needs of the ageing. At the same time, the access of the young to modern education can impair intergenerational ties, undermining the status of older people by making their experience and attachment to tradition appear outmoded and irrelevant to technological progress. Those socio-economic changes often marginalize the older people, removing them from the mainstream of development, weakening their traditional sources of material support and eliminating their social and economic roles. The development of government services to replace traditional sources of support may increase their social isolation.

Several social development issues emerge from this discussion. First, it is necessary to ask how the process of marginalization can be reversed, permitting older persons to remain active members of society and to contribute to the development process. A second issue concerns how resources can be transferred to growing numbers of ageing persons without jeopardizing the quality of life of other sectors of the population and potentially polarizing

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*This chapter repeats, with only minor changes, material from The World Aging Situation: Strategies and Policies (United Nations publication, Sales No. E.85IV.5), pp. 60-62.